SUBSTANCE AND INDIVIDUATION IN LEIBNIZ

J. A. COVER
JOHN O'LEARY-HAWTHORNE

CAMBRIDGE
UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge CB2 1RP, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge, CB2 2RU. http://www.cup.cam.ac.uk
40 West 20th Street, New York, NY 10001–4211, USA http://www.cup.org
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

First published 1999

Printed in the United Kingdom at the University Press, Cambridge

Typeset in Baskerville 11/12.5 pt [VN]

A catalogue record for this book is available from the British Library

Library of Congress cataloguing in publication data
Cover J. A. (Jan A.), 1958–
Substance and Individuation in Leibniz
J. A. Cover, John O'Leary-Hawthorne.
p. cm.
Includes bibliographical references and index.
ISBN 0 521 59394 8 (hardback)
1. Leibniz, Gottfried Wilhelm, Freiherr von, 1646–1716.
2. Metaphysics. I. O'Leary-Hawthorne, John. II. Title.
B2599.M7C68 1999
110'.92 – dc21

98–37115cip
ISBN 0 521 59394 8 hardback

Contents

CHAPTER 1

Leibniz and the problem of individuation: the historical and philosophical context

The metaphysics of individuation, like the historical and contemporary senses of 'individuate'* and its cognates, is a complex web of difficult issues. The spin Leibniz gives to them can be properly traced out only against the scholastic backdrop that was his intellectual heritage. In this chapter we undertake a brief journey through the conceptual network in the vicinity of "individuation" – first as a means of distinguishing related questions that can be asked about our topic (§1), and then as a means of highlighting similarities and differences between contemporary and scholastic ways of understanding them (§2). With these introductory remarks in place, it will then be possible (§3) to make vivid the central threads (as we see them) in the early Leibniz's (1663) *Disputatio Metaphysica de Principio Individui*,[1] anticipating finally two important themes in the mature Leibniz (§4). Here – and indeed in the remaining chapters – we are not simply aiming to locate points of historical continuity. Much as contemporary readers are more comfortable with the mature Leibniz on substance and individuation as against the apparently contorted efforts of the scholastics to engage with roughly the same set of problems, one should not lose sight of ways that scholastic insights into problems and possible solutions were rejected and largely forgotten rather than refined and extended into the modern period. Then as now, continuity isn't everything.

*Throughout this discussion we will use single quotations marks to indicate that words and phrases occur autonymously, reserving double quotation marks for their ordinary use as punctuation.

[1] At G IV,15–26. We have profited from Laurence B. McCullough's recent *Leibniz on Individuals and Individuation*, which contains along the way English translations of all sections of the *Disputatio*. We have used McCullough's translation (with occasional revision) in what follows, using MLI followed by page in citing *Disputatio* texts. When treating of McCullough's own discussion we shall cite McCullough, *Leibniz on Individuals*, with page. Readers are encouraged to consult the bibliography early on in their reading.

1 APPROACHES TO THE METAPHYSICS OF INDIVIDUATION

Assume the bare bones of a substance/accident metaphysic. That is to say, assume that the world contains individual things that (can) endure through time – leaving aside for now whether they are material or immaterial –, and in which properties inhere – leaving aside for now whether properties are Platonic forms, mental abstractions, immanent universals, or individualized tropes. What general sort of approach might the philosopher take in articulating an account of individuation? We consider here two broad styles of approach to offering a metaphysic of individual substances that encode pictures of what the philosopher is up to when taking on problems of individuation – pictures that are in one form or another at work in the scholastic tradition.

1.1 The blueprint approach

One way of getting clear about the nature of a thing or a kind of thing is to provide a sort of *blueprint* for bringing that thing, or a thing of that kind, into being. In (what we nowadays call) the philosophy of mind, for example, one might propose to come to grips with the nature of mind by trying to conceive some sort of blueprint for creating a thinking thing. The blueprint may of course be impossible to implement in practice for all sorts of reasons: one might not have ready access to the materials, one may have no ready means for recognizing the materials, and so on. Yet seeking such a blueprint may be thought – as many philosophers of the cognitive sciences have recently thought – to provide philosophical understanding nevertheless. Similarly, in fundamental metaphysics, the blueprint approach has enjoyed some popularity in the history of our subject, owing perhaps to earlier models of the relation between creatures and the Creator. When confronted with such abstract questions as "What is the nature of an individual substance?" one might hope to make some measure of progress by conceiving of a sort of blueprint – of God's recipe book, so to speak. Just as a recipe in cookery will proceed by listing ingredients and modes of combination, so the blueprint for an individual substance would provide an account of the constituents of a thing, together with an account of the modes of unification whereby those constituents make up the thing or ontological kind in which one is interested.

Suppose that a scholastic philosopher is taken with the blueprint picture and sets out to illuminate the metaphysical structure of in-

dividual substances.[2] How will he proceed? He will not, of course, be working in an intellectual vacuum: scholastic philosophy begins with Aristotle. The struggle with individuation was, for medieval thinkers, a struggle to make good on the Aristotelian project of articulating the structure of substance, supplementing and refining Aristotle's own account in response to perceived explanatory demands of various metaphysical and theological concerns. Three Aristotelian components were nearly always in play in discussions of individuation: form, matter, and accident. The familiar picture here, in broad brush-strokes, is that a form is a unifying principle[3] in matter that yields the sort of unity in which accidents can inhere. The category of accident itself was typically regarded by the scholastics as ontologically posterior to that of substance – the reality of accidents in some deep sense presupposing the reality of substances in a way that substances do not presuppose accidents.[4] That leaves matter and form, under some construal of which one or both will then – together perhaps with supplementary components to cover an explanatory shortfall – be put to work in settling questions about individuation.

In addition to the historical influences of Aristotelianism are broadly theoretical constraints on the problem of individuation, variously implicit and explicit in medieval accounts of individuation. We note here three sorts of consideration that may constrain the search for a blueprint.

First, in approaching an account of individuation, one may already be convinced of certain facts about the metaphysical structure of substances for reasons connected with other metaphysical or theological

[2] Here we set aside the possibility of construing substance as a mass noun: the issue will be discussed briefly in the environment of chapter 7.

[3] Here using principle (*principium*) in the scholastic sense of *origin or foundation or source*, as inherited largely from Aristotle's *arché* in the *Metaphysics* (cf. v,1,1012^{b}33ff): it was an established term, with this broad sense, by the thirteenth century. Having announced early in *Disputatio* §2 that he intends in that work "to treat of the principle of the individual" (G IV, 17: MLI 22), Leibniz goes on to note that 'principle' has been understood in several ways ("Principii quoque vox notat tum cognescendi principium, tum essendi. Essendi internum et externum") – opting himself in the *Disputatio* to avoid any epistemological or external glosses on a principle of individuation.

[4] See for example Aristotle's *Metaphysics* x,1,1052^{a}33, echoed by Aquinas in his *Expositio super librum Boethii De trinitate* q.4, a.2. That accidents are individuated by their substances was a common view of the middle scholastics (cf. Avicenna, *Metaphysica* 74v, c. 2 and *Logica* 9v, c. 1, and Aquinas, ST III.77); it was retained by many later figures, including John of St. Thomas (1589–1644), arguably the last of the major scholastics, who follows Aquinas in individuating accidents by the subjects in which they inhere ("S. Thomae certissimum est individuationem acidentium sumi a subjecto, in quo sunt, seu in ordina ad illud": *Cursus philosophicus* . . . Reiser, p. 789; cf. Gracia and Kronin, "John of St. Thomas," p. 526). This view was denied by some nominalists, Suarez later among them.

concerns. A scholastic philosopher may, for example, have already convinced himself of the need to distinguish the matter of a substance from the substance itself, given a need to account for substantial change (a substance's coming-to-be or going-out-of existence, as opposed to mere alteration).[5] Yet, more obviously, a scholastic may well insist on distinguishing the proper accidents of a thing from other constituents of persisting individuals, as a means of explaining the diachronic identity of a substance through change (alteration). Further, that philosopher may already be convinced of the need to distinguish the essence of a created thing – which would exist whether or not God chose to bring the thing into being – and the existence of the thing, providing the differentia between the states of affairs of God's actualizing, and God's not actualizing, the essence in question. In such ways, the results of an inquiry into generation, corruption, creation, annihilation, diachronic change, and still other topics may already set our scholastic philosopher on the way toward a particular account of the metaphysical structure of substances.

A distinct if related constraint would consist of various putative conceptual truths about substances as individuals – of what may be regarded as the "intension" of individual substances.[6] Consider the notion of *individuality* itself–the notion of what it is to be an individual as opposed to being something else. Most of the intensional elements in terms of which that notion was variously analyzed by scholastic writers survive in some form or other to this day: *Impredicability* – on which condition an individual substance is not said of (does not inhere in)

[5] Similarly, the modern philosopher may be convinced of a real distinction between, say, a statue and the hunk of matter that makes it up on account of the fact that the hunk of matter existed prior to the statue. Setting artifacts aside, the distinction itself here at issue was subject to various qualifications. The broad scholastic agreement with Aristotle on genuine substantial change was tempered by a theology of *ex nihilo* creation: where Aristotle had claimed that coming into being and ceasing to be in the absence of some persisting substratum was unintelligible, medievals viewed the Aristotelian requirement as at best correct for the realm of creaturely causes only. Leibniz follows the medievals here, though in the context of explaining how the mechanistic view of alteration (via motion) is consistent with Aristotelianism, the early Leibniz is cautious to remind us that "numerically the same change may be the generation of one being and the alteration of another" (G IV,166: L 96) – citing among others the case of rusting iron (from Hooke's *Micrographia*).

[6] Or, more carefully, the intension of 'individual' simpliciter, as this terminology has been introduced and deployed by J. J. E. Gracia in his *Introduction*, pp. 22ff (see also pp. 3–6 of his "Introduction" (Ch. 1) to Jorge J. E. Gracia, *Individuation in Scholasticism.*) The intension of 'individual' comes closest to what, in our reading of §2 of the *Disputatio*, Leibniz isolates as the sense of 'individual' applied *in conceptu* or *formaliter*: his announced purpose is to investigate that "real" principle of individuals (here applied *in re* or *fundamentaliter*) "which would serve as the foundation for the formal notion in the mind of 'individual'. . ." (G IV,17: MLI 23).

anything in the way that properties are said of (inhere in) substances; *Incommunicability* – the core sense in which substances are indivisible, according to which individual substances are not common to many things (as universals are fully occurrent in many things at the same time); *Identity* – here construed diachronically as the capacity to endure under change (alteration); *Division* – which in scholastic terms is "a capacity to divide a species," as individual dogs divide the canine species; and *Distinction* or *difference* – which is to say that substances are countable under the relation of numerical identity, as Socrates and Plato are said to be two. Whether deployed singly or in some combination, the role of such notions in a broadly conceptual analysis of what it is to be an individual will constrain the search for a blueprint for individual substance(s).

A third constraint will be one's sense of the paradigm cases of an individual substance, as well as one's sense of the paradigm cases of non-substance. Here the question concerns the "extension" of 'individual substance'. Alongside the well-worked distinction between substance and accident, of equal importance to medieval thought on our topic was a distinction between substances that exist *at the metaphysical groundfloor*, so to speak, and so-called enduring things that are metaphysically second rate. This idea too will not be altogether foreign to contemporary readers: each of us will have at least an initial temptation to think of a particular cat as enjoying a place in the metaphysical scheme of things that is of a rather different order to that enjoyed by Tabix, where Tabix is the aggregate of Tabby and Felix. With any such distinction in place – between what the medievals would reckon substances *per se* and substances *per accidens*[7] – one's search for a blueprint becomes more focused, here owing to a need to account for the sort of real unity enjoyed by first-rate substances but lacked by second-rate heaps. In contemporary philosophy, paradigm examples of individual substances are typically offered up (as just now) from within our folk, workaday, conceptual scheme. Needless to say, scholastic philosophy preceding Leibniz looked as much to theology as to the scheme encoded

[7] The provenance of the distinction itself, traceable in large measure to Aristotle's familiar doubts about whether heaps, parts of organisms, the elements, and so on are genuine substances (e.g.. *Metaphysics* VII,16), should not be too closely wedded to its taxonomic cousin in *Metaphysics* V,6 and 7, about what is "accidentally one" versus what is "one by its own nature." There, doubts about whether musical Corsicus – as opposed to rational Corsicus, say – is accidentally one represent concerns about proper differentia and the unity of definition. In this latter context, a bundle of sticks and an arm are alike said by Aristotle to be "one by its own nature" ($1015^{b}35$ff); but alongside *Physics* V,3,$227^{a}11$–12 and the dominant sentiment of the *Metaphysics*, a bundle or an arm is one in at best a Pickwickian sense. Thanks to Patricia Curd and Martin Curd here.

by natural reason for data that constrain metaphysical inquiry. Insofar as one takes the existence of God as source of all reality, or a being that is both human and divine, or the transubstantiated host, to be among the deliverances of special revelation, one will reckon such information as proper input into one's search for a metaphysic of substantial individuals. Note in particular that for the scholastics it was largely non-negotiable that some individual substances were purely spiritual, incorporeal beings: an account of individuation that only applied to corporeal substances would be at best an account of individuation of one *kind* of substance.

As with all approaches to a full metaphysic of substantial individuals, the blueprint approach can proceed at different levels of generality. One may be after a schematic blueprint for substance *qua* substance – that is to say, a blueprint abstracting away from whatever is distinctive of any given particular substance and whatever is distinctive of any given particular kind of substance. Alternatively one might seek a portfolio of blueprints – one for each fundamental kind of substance taken to exist, where now each blueprint would abstract away from those features distinctive of any given particular substance. Yet again, one may be after a metaphysical blueprint for particular individuals – where the concern is not so much, say, a special fascination with what makes Socrates Socrates, but rather a concern to provide some recipe for a blueprint highlighting what it is, for any individual x, that makes x the very individual it is.

Prima facie, then, one confronts at least three levels of blueprint approach, corresponding to the questions "What is it for a thing to be an individual substance?" "What is it for a thing to be the kind of substance that it is?" and "What is it for a thing to be the very individual substance that it is?" And here arises a fundamental methodological issue for approaching any metaphysic of individuation – namely where to begin. Does one start with the most general question and then descend in order of generality? In the case of the blueprint approach, this would amount to an initial search for the most abstract blueprint of substance *qua* substance, followed then by some filling-in of detail according to kinds (or else by some recipe for filling in detail according to kinds) – followed, finally, by filling in detail (or providing a recipe for doing so) according to the particular individual substance in question. Alternatively does one begin at a lower level, perhaps ascending later to one of the more general questions? Thus one might begin at the level of kind, adding individual differentia to each kind-blueprint to descend, abstracting what is com-

mon to the kind-blueprints to ascend. It may of course arise that one of these levels of questioning presents itself as less coherent or otherwise less promising than the others. One may well reject the most abstract level, for example, owing to a conviction that there is nothing very useful to say concerning the metaphysical common ground between different kinds of individual substances. Thus it may emerge that kind A and kind B enjoy the intension of 'individual substance' via such different metaphysical routes that there is nothing much to offer by way of a general blueprint. (Here perhaps one thinks most naturally of Aquinas's different accounts for compound [material] substances and angels.[8])

1.2 The modal approach

Questions about the nature of individual substances quite clearly have either an explicit or a tacit modal dimension to them. The question "What is the nature of an individual substance?" converts readily (again, since Aristotle) into the question "What must a thing be in order to be an individual substance?" Accordingly, one may fairly gloss the search for principles of individuation as the search for a certain class of necessary truths; in particular one is seeking the most fundamental truths (*de re*) about substances. In this connection, note that an assumption common to most medieval and contemporary thinkers alike is that substances are essentially substances: nothing is actually a substance but possibly a non-substance. Similarly, discussions at the level of kinds, to the extent that they are central to individuation, will concern kinds that are essential to substances. And, quite obviously, questions at the very lowest level of generality – concerned with, say, what makes *this* individual (say, Socrates) the very individual it is – are about *de re* necessities, it being assumed in such contexts that Socrates could not fail to be identical with Socrates.

A natural place to look for answers to *de re* modal questions relevant to our topic will be to the intension of the general terms 'substance' and 'individual', to the intension of kind sortals, and to the intension of singular terms (names). One might object here that truths associated with intension must be *de dicto*.[9] But illuminating *de dicto* truths of (say) the

[8] See for example *De ente et essentia* §§66–75.

[9] The *de re*/*de dicto* distinction is of course a medieval one. It was for example explicitly appealed to by Aquinas, notably in the discussion of divine foreknowledge in *Summa contra gentiles* 1.67; but see also *De veritate* q.2, ar.12, ad.4 and *De modalibus* (cf. I. M. Bochenski, "Sancti Thomae Aquinatis de Modalibus Opusculum et Doctrina").

form 'Necessarily all *F*s are *G*s' can readily be transformed into illuminating *de re* truths given the *de re* premise that such-and-such is necessarily F. Nevertheless it is a mistake to suppose that the modal approach itself amounts to no more than a conceptual analysis of intensions. Prior to converting any *de dicto* necessities into *de re* truths, for example, one must form some judgment concerning which truths are *de re* necessary – a judgment not settled by the *de dicto* necessities themselves. Moreover, it is unclear why some sort of high-level theory could not in any case supplement whatever modal truths are delivered by the intensions alone.[10] Recall, *inter alia*, that from Aristotle to Kripke, metaphysicians have taken seriously the idea that a scientific, *a posteriori* inquiry into the nature of things may reveal *de re* modal truths altogether foreign to our pre-theoretic understanding of things. Putting the point now in scholastic terms: the real definition of thing or kind that places it in a taxonomic order of being may look nothing at all like the nominal definition that expresses the understanding that comes first in order of knowing.[11]

In adopting what we might call the "simple modal approach" as so far conceived, one views the metaphysics of individuation as part of a high-level theory whereby one supplements the *de dicto* modal truths delivered by the intensions of relevant terms. The connection between the simple modal strategy and the blueprint approach is a mixed one. Some of the modal addenda about individual substances may implicitly say something about the contribution of its structural components to its

[10] The need for such supplementation becomes particularly pressing to the extent that one doubts that a proper name or a term for a kind has much by way of an intension. Contemporary doubts (urged by Kripke in, for example, *Naming and Necessity*) arise from the recognition that many singular and natural-kind terms secure their reference by reference-fixers that are contingently true of their referents rather than by connotations that are uniquely and necessarily true of them.

[11] One cannot, however, straightforwardly equate the project of providing a theory of individuation for things with that of providing a real definition for them. Thomas Aquinas, while providing a principle of individuation for compound (corporeal) substances, was less than confident that they have a definition. He claims, notably, that signated matter "would be part of the definition of Socrates, if Socrates had a definition" (*De ente et essentia* §23). Socrates has no definition if definitions by their nature must be in purely general terms, and if no purely general terms can succeed (fairly, without singular reference to Socrates himself or to individual regions/points of space) in uniquely singling out *this* signated matter here rather than that there. (Here, see Chapter 4.) A second point: Aquinas believed that once Socrates' signated matter has individuated him (if you like, once it has individualized his form), God can keep him in existence without him having any matter at all. Think of the real definition as expressing components that are essential, and signated matter cannot be part of the real definition. But it can (in a way reminiscent of Kripke's necessity of origins) figure in a story about individuation. Here is Aquinas (following Avicenna): "the individuation and multiplication of souls depends on the body in regard to its beginning, but not in regard to its termination" (*De ente et essentia*, §93; cf. *Summa contra gentiles* IV.81; *Compendium theologiae* 145).

nature[12] – as when one judges that (say) necessarily a human being always enjoys the numerically same soul at its helm. But some of them may not directly speak to issues of constituent structure – as when one judges that (say) an individual substance cannot enjoy a temporally gappy existence whereby it passes out of existence and then comes back into existence.

The simple modal strategy, familiar in much of historical and contemporary metaphysics, represents a quite general approach to questions of substance and individuation. A fruitful and historically influential way of extending the approach as a methodological strategy is to take seriously Aristotle's broad distinction between the *order of knowing* and the *order of being*. (i) For any theoretical inquiry there exists, on the one hand, an order of epistemic priority, whereby one proposition is known (or belief is judged to be warranted) on the basis of one's knowledge or warranted belief of some other proposition. An order of epistemic priority may have a variety of sources. *Q* may be epistemically posterior to *P* if, in order to even grasp the proposition *Q*, one has already to know *P*. Thus, to understand the proposition that $2 + 2 = 4$, one has already to know that four is the successor of three and that three is the successor of two. Alternatively, it may be that even though *P* and *Q* may be grasped independently, one can acquire good evidence for *Q* only by way of being epistemically secure about *P*. (ii) On the other hand (by contrast), the order of being has nothing to do with facts about cognitive grasp or evidence. To be convinced of an order of being is to be convinced that some truths obtain in virtue of other truths obtaining – and so, crucially, that certain truthmakers in the world obtain in virtue of other truthmakers obtaining. The philosopher who is comfortable with such a view of the world will typically have richer resources for making sense of the *in virtue of* relation than that provided only by efficient causal relations between distinct states of affairs, positing in addition other sorts of explanatory relationships that hold in the world – emergence, formal cause, emanation, supervenience, and so on. The scholastics were, of course, notable in their willingness to recognize such relations within the order of being.

To anyone acknowledging the importance of such a distinction, the

[12] The implications may of course emerge in concert with the deliverances of intensional analysis. Prior to arguing in *De ente et essentia* that "matter is the principle of individuation" for composed material substances (§22), Aquinas defends a crucial premise (§20) on the basis of the meaning of 'essence' (analyzed in §§5–11). Concerning the issue of temporally "gappy" existence (below) and its relation to a constituent metaphysic of substances, see *Summa contra gentiles* II.80–81.

answers delivered by the simple modal approach, even if they are correct, will not be fully satisfying. For one will still wish to understand the explanatory order of the modal facts. That is, according to what we might call the "modal-explanatory approach," one should like to make explicit the ranking of all relevant modal facts *vis-à-vis* the order of being. And having the Aristotelian distinction firmly in hand, one will not assume that the epistemic order marches in lockstep with the order of being.[13] Thus, for example, the intension of 'substance', while perhaps primordial in the order of knowing about substances, may in many respects emerge as derivative in the order of being. That is to say, the analytic truths belonging to the intension of 'substance' may be true of members of its extension by virtue of facts that do not at all belong to the intension of 'substance'. Moreover, there may be a *de re* hierarchy *vis-à-vis* the order of being even within those intensional truths, where that hierarchy is not internal to the intension itself.

2 CONTEMPORARY APPROACHES TO INDIVIDUATION THROUGH SCHOLASTIC EYES

When approaching Leibniz's writings about individuation, it is tempting to locate them within a contemporary framework in which discussions of individuation take place. In our view there is much to be learned from doing so. But one should not forget that the mature Leibniz evolved from an earlier self that was very much immersed in a scholastic approach to our topic. Insofar as there are deep but often subtle differences between scholastic and contemporary frameworks for thinking about individuation, one should be aware of them, allowing where necessary the residue of Scholasticism to explain certain peculiarities of Leibnizian thought, particularly when they remain opaque when viewed through contemporary glasses. As a means to better appreciating Leibniz's views on individuation, it will be helpful, we think, to look at contemporary approaches through scholastic eyes.

2.1 Criteria of identity

In contemporary accounts, questions most closely approximating traditional concerns about individuation are often posed in terms of so-called

[13] As clearly the mature Leibniz himself did not assume when claiming that "we are not concerned with the sequence of our discoveries . . . but with the connection and natural order of truths" (NE IV.vii.9: RB 412).

"criteria of identity." In some cases the sought-after criteria specifically concern diachronic questions: for example, under what conditions is some F-thing (x) at t_1 identical with some F-thing (y) at t_2 (where F could be 'enduring substance' but is typically a more restricted kind sortal)? On other occasions the sought-after criteria are not specifically diachronic: for example, under what conditions is some x that is F identical with some y that is F? Consider two familiar examples of this sort of account that have been offered, disregarding what might be said for or against them:

(P) Person x at t_1 is identical with person y at t_2 iff y is psychologically continuous with x.

(E) Event x is identical with event y iff x and y have the same causes and effects.

One point to note about both sorts of identity criteria is that neither begins to exhaust the modal questions one would hope to have answered by a theory of individuation. Clearly, answers to diachronic questions are not designed to provide answers to questions of synchronic counting, providing at most truth conditions for putative necessary truths of the form 'a is the same F as b' when that claim involves tacit reference to different times. Criterion (P) doesn't begin to tell one what it is for there to be a single person at a time. The second style of identity criterion is also limited in its modal ambit. Recognize the tacit necessity operator at the front end of (E) and it is clearly not restricted to the actual world. Nevertheless its focus remains intra-world, concerning what can and cannot be shared by a pair of events within a single world: (E) does not, as it stands, yield an answer to the question "How could a particular event have been different and nevertheless be the numerically same event?"

Such modal limitations as these may, of course, be eliminated by the right sort of transworld identity criteria. Thus:

(E') Event x in $W1$ is identical with event y in $W2$ iff x and y have the same causes and effects

– for better or worse reckoning the causes and effects of any particular event to be essential to it. Nevertheless, there would be, for the scholastic, very obvious limitations to a story of individuation that satisfied itself with a transworld identity criterion of this familiar sort.

One complaint with such approaches, enjoying some contemporary

voice but scarcely any scholastic sympathy, is an epistemic one: modal issues aside, the likes of (E') may not enable one to recognize whether some event *x* is numerically the same as some event *y* because we may be able to settle the causal facts only alongside of or posterior to settling identity facts.[14] The typical run of scholastic philosopher will not much care if an account of individuation for Fs refers to what is posterior in the order of knowing, so long as the claim about order of being for Fs is otherwise acceptable.

A complaint that *would* arise from this latter scholastic perspective, one with which we should all be able to muster some sympathy, is this: the transworld identity criterion (E') does not tell us what it is to be an event in the first place. Given event *x* and event *y* and the relevant causal facts about *x* and *y*, the criterion will enable us to infer whether *x* and *y* are numerically the same or not. But until one is provided with some account of what it is for something to fall under the concept *event*, the criterion is not something one could begin to deploy. Shall we count Adam – the first man – as numerically the same event as Adam, on the basis of the fact that Adam and Adam have the same effects (none at all or identical agent-causal ones) and the same causes (none at all or a particular volition of God)?[15]

This latest complaint signals the kind of misgiving a typical scholastic philosopher would have about contemporary, "criteria-of-identity" approaches to individuation: they are at best incomplete metaphysical accounts. Clearly such criteria presuppose some general account of individuality – some prior accounting of what metaphysical facts-of-the-matter (sortal-specific or otherwise) ground the division, impredictability, and incommunicability of individuals. But supposing a stock of individuals to be safely on board, such criteria (by contraposition) speak to the intensional element of individuality we earlier called numerical *distinction* or *difference*, inviting one to complete the schema 'At time t, individual *x* is numerically distinct from individual *y* iff —' (sticking here with the synchronic version and setting modal and sortal distractions aside). The philosophical temperament of the scholastic will incline

[14] Here see the discussion of §38 in chapter VI of Jonathan Bennett, *Events and Their Names*. In his *Haecceity: An Ontological Essay*, Gary S. Rosenkrantz is careful early on in chapter 2 ("The Problem of Individuation") to warn that his sought-after "formal criterion of individuation," which must specify a condition that is logically necessary and sufficient for numerical diversity, "should not be confused with the notion of an epistemic principle of individuation" (p. 76, n. 3).

[15] One is reminded here of Frege's concern in the *Grundlagen* (§§55–69) about whether Julius Caesar could be the number two, or whether England could be identical with the direction of the earth's axis.

again to the complaint of metaphysical shallowness: "All this," the scholastic might wonder, "as if to simply assume that some positive account or other must be available as filler: there is some quality that *x* has which *y* lacks, or there is some causal ancestry and progeny that *x* enjoys which *y* does not, or there is some material stuff associated with *x* that is not associated with *y*, or *x* is in some spatial location that *y* is not, or *x* has some form that *y* lacks, or . . ." What is here simply assumed should, by scholastic lights, be earned in the context of a deeper metaphysics. Thus: "However prior they may be in the order of knowing, the accidents of quality are posterior to individuals in the order of being, and so cannot play the needed role in individuation. Spatial location is either an (internal) accident or external relation. But accidents are out, and an appeal to external relation – spatial, causal or otherwise – is merely an appeal to yet a further presumed instance of numerical distinction or difference, itself as yet unexplained. Matter is pure potentiality, indifferent to this or that individual substance. Form is general, common, sharable. Thus, there is no positive principle in individual substances grounding numerical diversity. *Negation* is the principle of individuation: numerical diversity or difference is the negation of identity or sameness."[16]

Never mind our choice of this particular response, nor its chances of succeeding. The general point is that a scholastic will be much more concerned to push very hard on both structural and explanatory questions. Even settling modal and sortal distractions of the sort noted above – even supposing that one's identity criterion is transworld adequate and that one specifies conditions for falling under the relevant sortal – the scholastic will yet push on such questions as "By virtue of what does everything falling under that sortal satisfy that criterion?" and "By virtue of what is that criterion of identity true of all possible Fs?" Answering such questions will lead the scholastic to seek the relevant explanatory truth-makers within the internal metaphysical structure of individuals, to enlist the modal contribution of such constituents – whether a "negative" principle or, more typically, some "positive" principles such as form, matter, accident, or something else again – in at least partially explaining the *de re* modal truths of individuals.

[16] Arguments similar to this one, attacked by Scotus, are laid out and criticized by Christian de Ramoneda (in *Disp. de materia*, a.3), by Archangelus Mercenarius (in *De principio individuationis* 1, ch. 2), and others cited by Leibniz: see McCullough, *Leibniz on Individuals*, chapter 3 for references and texts.

2.2 Modern essentialist semantics

Consider a typical subject–predicate sentence of the form '*a* is F'. And consider now the following, fairly standard semantic story offered by the contemporary essentialist: 'F' expresses a function from possible worlds to sets of individuals. If the predicate-function corresponding to 'F' delivers a set containing *a* when the actual world is given as argument, then '*a* is F' is true. If, for each world in which *a* exists, the predicate-function corresponding to 'F' delivers a set containing *a* when that world is given as argument, then 'a is essentially F' is true. (Let us say that in this case, the predicate-function is essential to *a*.) If *a* is F but it is not the case that *a* is essentially F, then 'a is accidentally F' is true. If *a* is not-F but it is not the case that *a* is essentially not-F, then 'a is accidentally not-F' is true. Here 'not-F', like 'F', expresses a function from worlds to sets.[17] The essence of any particular thing is given by the set of predicate-functions that are essential to it. The essence of any kind is given the set of predicate-functions essential to every possible member of that kind. The essence of substance *qua* substance is given by the set of predicate-functions essential to every possible substance.

That familiar story will, of course, get supplemented with yet further details. But even at this stage, it bears striking and fundamental differences from the scholastic framework. We consider here two important differences that are especially worthy of note.

First, the modern essentialist schema neglects, by scholastic lights, the distinction between the real definition and the proper accidents, where the essence is given by the real definition. Both the real definition and the proper accidents are essential to the thing, *in the contemporary sense* of the term 'essential' just noted. But only the real definition gives the essence, *in the scholastic sense*, which is that of the true inner nature of the thing. The proper accidents flow ineluctably from the true inner nature but do not constitute that nature. As a rough first pass (of its deficiency, more later): the real definition can be regarded as specifying some core or "nuclear" set of properties that are essential in the contemporary sense, and which are such that the remaining properties that are essential in this sense hold in virtue of one or more members of the core.[18] The distinction is an Aristotelian one. After explaining that a

[17] If one dislikes function talk, one can mirror the story by talking about a property expressed by each predicate and then deploying talk of instantiation, actual and possible, in place of talk of function, argument, and value.

[18] Where a necessary (but not sufficient) condition for a property A holding by virtue of B is that, necessarily, if B then A.

(real) definition "signifies a thing's essence" (*Topics* 1,5,101^{b}35), Aristotle says that distinct from what is expressed by the definition are its "properties" (proper accidents), which "do not indicate the essence of a thing, but yet belongs to that thing alone, and is predicated convertibly of it" (102^{a}18). His example: if *x* is a man then *x* is capable of learning grammar; and if *x* is capable of learning grammar then *x* is a man. The capability of learning grammar is not the essence of man, though man has it of *de re* necessity by virtue of being essentially (Aristotelian/scholastic sense) rational.

The distinction – including Aristotle's preferred taxonomy of essence *vs.* property – was apparently commonplace enough even in the early modern period for Spinoza to remind his readers of what he supposed "no one fails to see." From his account of definition in the *Tractatus de Intellectus Emendatione* (§95):

> To be called perfect, a definition will have to explain the inmost essence of the thing, and to take care not to use certain *propria* in its place . . . If a circle, for example, is defined as a figure in which the lines drawn from the center to the circumference are equal, no one fails to see that such a definition does not at all explain the essence of the circle, but only a property of it . . . [T]he properties of a thing are not understood so long as their essences are not known.[19]

Second, the modern essentialist gives the same metaphysical treatment to every grammatical predicate – by associating a function from worlds to extensions for each. From a scholastic point of view, such a treatment would blur distinctions of fundamental metaphysical import. In particular, the scholastic would insist on a distinction between those predicates that are made true of a thing by virtue of an accident inhering in the subject, and those predicates that are not. Consider what might make a predicate true of a thing without its being made true by an accident inhering in the thing: (i) it could be made true by some mental abstraction that is warranted by the thing without corresponding to any ontologically sanctioned principle in the thing, or (ii) it could be made true by some metaphysical constituent of the thing that is nevertheless of a different ontological kind from the thing or an accident, or (iii) it could be made true by the thing itself. Category (ii) here is particularly

[19] CWS 39. The early Leibniz either failed to see it or used 'essence' in something closer to the contemporary sense: in arguing that form cannot be increased or decreased and (hence) that one circle cannot be (so to speak) more circle than another, Leibniz writes to Thomasius in 1669 that "the essence of a circle consists in the equality of all lines drawn from its center to its circumference" (G IV,167: L 97; cf. also the ms. "Ad Christophori Stegmanni metaphysicam unitariorum" translated in Jolley, *Leibniz and Locke*, at p. 198). For Locke's version of essence and properties, see *Essay* III.vi.6.

important, given the scholastic tendency to proliferate (by contemporary standards) metaphysical constituents of an individual substance. Thus the predicate 'is a man' is made true by the lights of many scholastics by the substantial form of a thing, which is not at all conceived as being of a piece ontologically with the accidents of the thing.[20] From the perspective of one who takes seriously the requirement to be selective in one's pairing of predicates with accidents and, relatedly, to find other kinds of truth-makers for those predicates not associated with accidents, the contemporary semantic model – whereby each predicate alike is associated with a function from worlds to sets – will seem to neglect altogether the most important aspects of the ontological structure of a substance. And in failing thus to give a sufficiently fine-grained representation of the manifold (truth-making) relations between language and the world, it will thereby neglect some of the most important explanatory relationships that are needed for an adequate metaphysic – between immanent substantial form and the thing itself, between substantial or other forms and accidents, between form and matter, and so on.

In light of this second point, our first pass at taking account of the distinction between proper accidents and real definition (essence) would appear unsatisfactory from a scholastic point of view. That rough account took for granted that the predicates of the real definition and predicates corresponding to proper accidents both express entities of the same ontological genus, namely, properties – the distinction itself being drawn in terms of explanatory relationships internal to the genus. The typical scholastic would be loath to assume that the essence of a thing can be analyzed in terms of members of the same ontological genus to which accidents also belong, perhaps even thinking that the explanatory relationship holding between an essence and its proper accidents will be of a sort that never holds in intra-accidental reality.

[20] To speak of "the substantial form" here in fact under-represents the extent of metaphysical proliferation by most scholastics before and after (but not including) Aquinas, for whom there were many substantial forms in living things. Aquinas himself – perhaps to preserve his conviction that the unity of a creature must imitate the simplicity of the divine essence – argued that there is only one substantial form in an individual composite (material) substance: the presence of any substantial form in prime matter suffices to bestow existence on the composite. Arguments against the Thomistic view were manifold. The authority of Aristotle's tripartite division of the soul into the essential but distinct nutritive, sensitive, and intellectual powers sufficed for many. Others, holding that the intellectual soul in humans is caused by God, left the substantial form of the body to be contributed by the parents; others argued that since (at death) the body of a creature remains when the form of the soul does not, it must be said that the form in virtue of which one is corporeal is distinct from the form in virtue of which one is animated; still others argued that the doctrine of the Incarnation requires that we admit the compresence of human and divine substantial forms; and so on.

3 THE EARLY LEIBNIZ: *DISPUTATIO METAPHYSICA DE PRINCIPIO INDIVIDUI*

In method and historical purview, Leibniz's early dissertation of 1663 is squarely in the scholastic tradition, and is directly concerned with problems of individuation. In what follows, we first lay out some important threads of that work, and then discuss the positive doctrine of the *Disputatio* in light of those threads, with an eye to understanding the ways that his mature views bear traces of his scholastic heritage. In the final section of this chapter we take an initial glance at the mature Leibniz against the background of the *Disputatio*.

3.1 Four themes in the "Disputatio"

Much of the *Disputatio* itself is devoted to articulating historically influential accounts of individuation, and to Leibniz's critical evaluation of them. The scholastics participating in debates about individuation – given its historical development in the 500 years preceding Leibniz and its relevance to a wide range of philosophical and theological stances – had inevitably cast their various nets in various ways. Thus (i) certain items emerging as intensional aspects of 'individuality' – division, impredicability, incommunicability, identity, and distinction or difference – might receive more or less emphasis, and might, for some participants but not others, stand to one another in asymmetric explanatory relations. Among the later scholastics, for example, Suarez was perhaps most explicit in reckoning incommunicability as the "essence" of individuation, and in arguing that distinction or difference is a sort of consequence of it.[21] In §2 of the *Disputatio* Leibniz notes in addition that

[21] "Essence" in quotes because, on Suarez's account, only natural kinds and their members have real essences. That incommunicability – indivisibility – is the essence of individuation for Suarez emerges at the very outset in Section 1 of the *Disputationes metaphysicae* V ("On Individual Unity and its Principle"), where his immediate concern is to argue that, "that is called 'one in number' or 'singular' or 'individual' which is one being in such a way that...it is not communicable to many" (§2: Berton, vol. XXV, p. 146), and that the very notion of a singular individual consists (*consistet*) in its being indivisible (§3). The explanatory priority of incommunicability to numerical distinction or difference arises most clearly in Section 3 of Disputation V. On the heels of rejecting the Thomistic view that the principle of individuation is a team effort – matter yielding incommunicability and quantity yielding numerical distinction – Suarez claims that no team effort is needed: a thing's being a singular individual unity is "by nature prior to its being distinct from others," and moreover "the latter follows intrinsically from the former without any positive addition being made to the thing itself that is one" (§12: Berton vol. XXV, p. 166). Numerical distinction or difference supervenes, comes along for the ride: whatever immediately grounds the incommunicable unity of an individual suffices mediately to ground its numerical distinction. "The same positive [thing] that is the foundation of unity with respect to the first negation, i.e.

(ii) accounts of individuation may proceed with a use of 'individual' to express every individual, or only substances, or just created substances, or even simply material substances; that (iii) an account of individuation may seek a principle of knowing or a principle of being; and that (iv) a principle of individuation may be an external principle or an internal one.

The focus of Leibniz's own project reflects a philosophical temperament not unlike that of his mature years:

> [W]e treat of something real and what is called a physical principle, which would serve as the foundation for the formal notion in the mind of 'individual', understood as individuation or numerical difference. We shall address individuals, particularly created and substantial individuals . . . Since we shall here abstract from material and non-material substance . . . we shall examine only the general opinions. (§§2,3: G IV,17: MLI 22–23)

(i') Leibniz's concern in the *Disputatio* (like Suarez's in the *Metaphysical Disputations*) is with indivisibility (incommunicability) and numerical difference. There is no special attention devoted to identity through change or to impredicability, both central to Aristotle's conception of primary substances. And it is (ii') individual substance itself that is Leibniz's principal target. That leaves one item in the traditional ontology out of his sights: while there are accidents, which by Leibniz's reckoning are numerically distinct and incommunicable individuals, he devotes no energy to discussing principles of individuation for accidents in the *Disputatio*.[22] But if focusing on individual substances in particular over individuals generally is a methodological choice, a further decision is philosophically motivated: in offering principles of individuation, "[t]here are . . . two kinds of opinions. Some have held hypotheses that were applicable to all individuals, like Scotus. Others, like Thomas, held a different view" (G IV,17: MLI 23) – treating bodies in one way, angels in another. Here Leibniz sides with Scotus, judging it possible to "abstract from material and non-material substance" in locating a general principle of individuation applicable to all individual substances. (Or anyway, to all finite [created] individual substances, as Leibniz is careful to note.) (iii') In seeking "something real and what is called a

indivision itself, is subsequently the foundation of the later negation, i.e. distinction from another."

[22] "[W]e have left accidents and incomplete beings out of the scope of our undertaking" (*Disputatio* §10: G IV,20: MLI 103) – this unlike Suarez, who devotes a full third (Sections VII – IV) of Disputation V to the individuation of accidents. We shall briefly address "incomplete beings" in §3.3 below.

physical principle, which would serve as the foundation for the formal notion in the mind of 'individual'," Leibniz focuses on the order of being, not the order of knowing. He is doing metaphysics, not epistemology or linguistic analysis.

A. *A Principle of Individuation as Internal* And what of (iv) internal vs. external principles of individuation? The distinction might have been more immediately relevant, in the early going of the *Disputatio*, were Leibniz to have divided his labor between substances and accidents – the latter, but not the former, being typically individuated by reference to something else[23] – or were Leibniz to have sided with Thomas in reckoning matter under dimensive quantity an individuating principle of material things – it being argued by some that this requires appeal to an external principle. After noting the internal–external distinction, Leibniz in any case makes no further mention of it, and one can scarcely doubt that his aim to locate a purely internal principle was too obvious to deserve special mention. It is absolutely fundamental to Leibniz's thinking on individuation that whatever individuates a substance must be something wholly internal to that substance itself. That basic assumption is quietly but resolutely at work throughout the critical parts of the *Disputatio*. Thus, for example, when approaching arguments (similar to that devised in §2.2 above) for the claim that one or more *negations* must the serve to individuate a substance, Leibniz writes:

> This can be easily opposed: the individual is constituted by negations, either outside the mind or in the mind. If the latter, their answer has nothing to do with the issue in question; if the former, how can positive being be constituted by negative being? (§12: G IV,21: MLI 37)

On the latter horn of the dilemma as presented, the negation account is damned straightaway on the grounds that it invokes something external to the substance itself (in this case a mind). The problem isn't that this makes the putative individuator only contingently connected to the thing; after all, the mind might be the immutable and eternal mind of God. What Leibniz insists upon is not merely that the individuator be non-contingent but that it be internal to the thing itself. The latter individuality-by-negation proposal has nothing to do with Leibniz's question, since he is seeking an internal principle of individuation. As we are reading him, Leibniz is requiring in the *Disputatio* what would later be expressed more explicitly – in *First Truths*, where he claims that whatever

[23] See note 4 above.

grounds the numerical diversity of individual substances "must be sought in some differences within themselves" (C 518–20: L 268), and on into the *New Essays*, where we're told that quite apart from "the relations to what lies outside" different individual substances "there must always be an internal *principle of distinction*" (NE II.xxvii: RB 230).

The general intuition is powerfully motivated. Consider some bona fide existing individual substance. That substance would it seems be the very individual it is even were it alone in the world. Take that idea seriously and it immediately becomes impermissible to bring in individuators of a substance that involve relation, or that make reference to other substances – indeed, even a relation of numerical difference to other things. Relatedly, one's groundfloor story about what makes substance *a* different from substance *b* shouldn't, by the present lights, concern a relation between *a* and *b*, since *a* would be what it is even if there were no *b* and *b* would be what it is even if there were no *a*. Take now the correct story about what makes *a a* and the correct story about what makes *b b*, each member of the pair proceeding without reference to the other: the relation of difference will supervene on the elements that make each story true. Hence the relation of difference will not be a primordial, inexplicable fact. That, recall, is Suarez's picture of Disputation V, where a thing's being a singular individual unity is "by nature prior to its being distinct from others" and where "the latter follows intrinsically from the former without any positive addition being made to the thing itself that is one."[24]

B. *All Unity is Grounded in Numerical Unity* An equally strong current in early Leibnizian thought is that metaphysical unity must be explained in terms of numerical unity. By thus rejecting the idea that numerical unity is a mere species of the genus *unity*, Leibniz in effect closes the door on any approach to individuation that attempts to explain numerical unity

[24] See note 21. Powerfully motivated as the general intuition may be, it is far from unanimously embraced in the context of contemporary metaphysics. According to the Kripkean necessity of origins story, what makes corporeal substances the very substances that they are is, at least in part, their origin – sperm and egg in the case of mammals, hunks of matter in the case of material artifacts, and so on. For the record, we have some sympathy with the scholastics and Leibniz, though now is not the time to defend such a conviction at length. (But, not at length: suppose that two duplicate organisms arise *ex nihilo*. In that case, there will presumably be a metaphysical ground of the relation of numerical difference between the two. And presumably, each organism would be the very organism it is even without the other existing, so the relation of difference isn't primitive. Intuitively, then, there is a sufficiently individuating bit of metaphysical detail for each individual that grounds the numerical distinction between each. Won't the kind of differentia we invoke here also [a] be present in the case of organisms with a history and [b] be sufficient to explain what makes each of them the very organisms they are?)